South Dakota
1997 AGRICULTURAL CHEMICAL USAGE

Released: August 19, 1998

OVERVIEW: *The agricultural chemical use estimates in this report are based on data compiled from the Agricultural Resources Management Study conducted during the fall of 1997. All results refer to on-farm use of fertilizers and pesticides on the targeted crops for the 1997 crop year. For South Dakota, these crops included other spring wheat, winter wheat, corn, and soybeans.*

OTHER SPRING WHEAT

SOUTH DAKOTA: Nitrogen was applied to 90 percent and phosphate to 70 percent of South Dakota's 2.5 million planted other spring wheat acres in 1997. Producers averaged 1.5 nitrogen applications applied once at a rate of 42 pounds per acre, while phosphate was applied at a rate of 35 pounds per acre. Herbicide was applied to 86 percent of the acreage. The most widely used herbicide was 2,4-D followed by Dicamba (Banvel) and MCPA.

REGIONAL: Nitrogen was applied to 92 percent of the spring wheat acres in the surveyed states, while phosphate was applied to 82 percent. Growers averaged 1.7 nitrogen applications applied at a rate of 40 pounds per acre. Phosphate was applied at a rate of 30 pounds per acre. Herbicide was applied to 90 percent of the spring wheat acres. The most popular herbicides were 2,4-D and MCPA.

OTHER SPRING WHEAT, SOUTH DAKOTA
Acreage, Percent Receiving Fertilizer and Pesticides, Number of Applications, Rate per Application

Year 1/	Area Planted	Nitrogen			Phosphate			Potash			Herbicide	Insecticide
		Area Applied	Applications	Rate Per Application	Area Applied	Applications	Rate Per Application	Area Applied	Applications	Rate Per Application	Area Applied	Area Applied
	1,000 Acres	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Percent
1993	2,200	81	1.3	42	71	1.0	24	10	1.0	13	97	2/
1995	1,250	95	1.3	38	68	1.0	26	12	1.0	15	97	2/
1997	2,500	90	1.5	42	70	1.0	35	2/	2/	2/	86	2/

1/ Data for South Dakota was not collected in 1994 or 1996. 2/ Insufficient reports to publish data.

OTHER SPRING WHEAT, MAJOR STATES
Acreage, Percent Receiving Fertilizer and Pesticides, Number of Applications, Rate Per Application, 1997

State	Area Planted	Nitrogen			Phosphate			Potash			Herbicide	Insecticide
		Area Applied	Applications	Rate Per Application	Area Applied	Applications	Rate Per Application	Area Applied	Applications	Rate Per Application	Area Applied	Area Applied
	1,000 Acres	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Percent
MN	2,450	98	1.7	52	91	1.0	35	73	1.0	42	94	1/
MT	4,350	79	1.6	28	66	1.0	23	15	1.0	16	94	1/
ND	8,800	99	1.8	40	92	1.0	31	24	1.0	20	88	1/
SD	2,500	90	1.5	42	70	1.0	35	1/	1/	1/	86	--
Total 2/	18,100	92	1.7	40	82	1.0	30	25	1.0	28	90	1

1/ Insufficient reports to publish data. 2/ Four state total, accounting for 93 percent of U.S. acreage.

OTHER SPRING WHEAT, SOUTH DAKOTA: Frequency and Extent of Herbicide Usage By Active Ingredient, 1997

Active Ingredient	Trade Name	Area Applied	Applications	Rate Per Application	Rate Per Crop Year	Total Applied
		Percent	Number	- - - Pounds Per Acre - - -		1,000 Pounds
2,4-D	Several	56	1.0	0.35	0.35	492
Bromoxynil	Buctril	4	1.0	0.24	0.24	23
Dicamba	Banvel	24	1.0	0.06	0.06	34
Fenoxaprop	Whip	13	1.0	0.05	0.05	16
MCPA	Several	23	1.0	0.30	0.30	172
Metsulfuron-methyl	Ally	10	1.0	0.004	0.004	1
Thifensulfuron	Pinnacle	13	1.0	0.01	0.01	4
Tribenuron-methyl	Express	13	1.0	0.006	0.006	2

Compiled and Published by
S.D. Agricultural Statistics Service, USDA $ P.O. Box 5068, Sioux Falls, SD, 57117-5068 $ 605-330-4235
Available on the Internet at http//www.nass.usda.gov/sd/

WINTER WHEAT

SOUTH DAKOTA: Nitrogen was applied to 78 percent of South Dakota's 1.05 million harvested winter wheat acres. Phosphate was applied to 58 percent. Winter wheat producers averaged 1.3 nitrogen applications at a rate of 36 pounds per acre, while phosphate was applied once at a rate of 25 pounds per acre. Herbicide was applied to 89 percent of the acreage. The most popular herbicides in South Dakota were 2,4-D and Metsulfuron-methyl (Ally).

REGIONAL: Nitrogen was applied to 84 percent of the 1997 harvested winter wheat acres in the surveyed states. Phosphate was applied to 53 percent. Producers averaged 1.5 nitrogen applications at a rate of 44 pounds per acre, while phosphate was applied at a rate of 34 pounds per acre. All surveyed states treated at least a portion of the acreage with herbicides; 2,4-D was again the most prevalent in terms of area and total application.

WINTER WHEAT, SOUTH DAKOTA
Acreage, Percent Receiving Fertilizer and Pesticides, Number of Applications, Rate per Application

Year	Area Harvested	Nitrogen			Phosphate			Potash			Herbicide	Insecticide
		Area Applied	Appli-cations	Rate Per Appli-cation	Area Applied	Appli-cations	Rate Per Appli-cation	Area Applied	Appli-cations	Rate Per Appli-cation	Area Applied	Area Applied
	1,000 Acres	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Percent
1995	1,520	53	1.4	27	43	1.0	31	1/	1/	1/	63	1/
1996	1,580	78	1.2	40	65	1.0	28	1/	1/	1/	65	1/
1997	1,050	78	1.3	36	58	1.0	25	1/	1/	1/	89	1/

1/ Insufficient reports to publish data.

WINTER WHEAT, SELECTED STATES
Acreage, Percent Receiving Fertilizer and Pesticides, Number of Applications, Rate Per Application, 1997

State	Area Harvested	Nitrogen			Phosphate			Potash			Herbicide	Insecticide
		Area Applied	Appli-cations	Rate Per Appli-cation	Area Applied	Appli-cations	Rate Per Appli-cation	Area Applied	Appli-cations	Rate Per Appli-cation	Area Applied	Area Applied 3/
	1,000 Acres	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Percent
KS	11,000	78	1.5	39	56	1.0	30	8	1.0	22	31	--
MT	1,450	95	1.4	32	78	1.1	26	23	1.0	13	88	1/
NE	1,900	92	1.6	35	74	1.0	34	1/	1/	1/	53	--
SD	1,050	78	1.3	36	58	1.0	25	1/	1/	1/	89	--
Total 2/	35,065	84	1.5	44	53	1.0	34	15	1.0	51	46	5

1/ Insufficient reports to publish data. 2/ Refers to 14 major winter wheat states, which account for 84 percent of U.S. acreage. 3/ Total applied excludes Bt's (bacillus thuringiensis). Quantities are not available because amounts of active ingredient are not comparable between products.

WINTER WHEAT, SOUTH DAKOTA: Frequency and Extent of Herbicide Usage By Active Ingredient, 1997

Active Ingredient	Trade Name	Area Applied	Applica-tions	Rate Per Application	Rate Per Crop Year	Total Applied
		Percent	Number	- - - Pounds Per Acre - - -		1,000 Pounds
2,4-D	Several	63	1.0	0.34	0.34	225
Dicamba	Banvel	15	1.5	0.16	0.23	36
Glyphosate	Roundup	16	1.2	0.46	0.56	93
MCPA	Several	12	1.0	0.12	0.12	15
Metsulfuron-methyl	Ally	21	1.0	0.004	0.004	1
Thifensulfuron	Pinnacle	17	1.0	0.01	0.01	2
Tribenuron-methyl	Express	17	1.0	0.007	0.007	1

CORN

SOUTH DAKOTA: Nitrogen was applied to 96 percent of South Dakota's 3.8 million corn acres in 1997, the lowest among the ten major corn states surveyed. Growers averaged 1.4 nitrogen applications at a rate of 60 pounds per acre. Phosphate was applied to 80 percent of the acreage and potash to 31 percent. Herbicide was applied to 93 percent of the corn acreage, while insecticide was applied to 10 percent. Dicamba (Banvel) and Atrazine (AAtrex) were the most popular herbicides and Tefluthrin (Force) was the leading insecticide.

REGIONAL: Nitrogen was applied to 99 percent of the total 1997 corn acreage in the ten states surveyed. Growers used an average of 1.7 applications per acre applying 76 pounds per treatment. In the states surveyed, 84 percent of the planted corn acreage received phosphates, and potash was applied to 72 percent of the acreage. Herbicides were applied to 96 percent of the corn acreage in 1997; Atrazine (AAtrex) was the most used herbicide with 69 percent of the reported acreage being treated.

CORN, SOUTH DAKOTA
Acreage, Percent Receiving Fertilizer and Pesticides, Number of Applications, Rate per Application

Year	Area Planted	Nitrogen			Phosphate			Potash			Herbicide	Insecticide
		Area Applied	Applications	Rate Per Application	Area Applied	Applications	Rate Per Application	Area Applied	Applications	Rate Per Application	Area Applied	Area Applied
	1,000 Acres	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Percent
1995	2,800	90	1.4	56	72	1.0	34	29	1.0	19	92	7
1996	4,000	88	1.5	60	77	1.0	33	39	1.0	20	91	25
1997	3,800	96	1.4	60	80	1.0	36	31	1.0	22	93	10

CORN, SELECTED STATES
Acreage, Percent Receiving Fertilizer and Pesticides, Number of Applications, Rate Per Application, 1997

State	Area Planted	Nitrogen			Phosphate			Potash			Herbicide	Insecticide
		Area Applied	Applications	Rate Per Application	Area Applied	Applications	Rate Per Application	Area Applied	Applications	Rate Per Application	Area Applied	Area Applied 2/
	1,000 Acres	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Percent
IA	12,200	99	1.6	77	75	1.1	57	75	1.1	67	98	19
MN	7,000	97	1.5	74	79	1.1	44	81	1.2	46	91	10
NE	9,000	100	2.0	75	80	1.0	27	26	1.1	13	98	62
SD	3,800	96	1.4	60	80	1.0	36	31	1.0	22	93	10
Total 1/	62,150	99	1.7	76	84	1.1	52	72	1.1	73	96	30

1/ Refers to 10 major corn states, which account for 77 percent of U.S. acreage. 2/ Total applied excludes Bt's (bacillus thuringiensis). Quantities are not available because amounts of active ingredient are not comparable between products.

CORN, SOUTH DAKOTA: Frequency and Extent of Herbicide Usage By Active Ingredient, 1997

Active Ingredient	Trade Name	Area Applied	Applications	Rate Per Application	Rate Per Crop Year	Total Applied
		Percent	Number	- - - Pounds Per Acre - - -		1,000 Pounds
HERBICIDES:						
2,4-D	Several	20	1.2	0.35	0.41	314
Acetochlor	Harness	17	1.0	1.26	1.26	811
Alachlor	Lasso	6	1.0	1.08	1.08	254
Atrazine	AAtrex	47	1.0	0.60	0.60	1,076
Bromoxynil	Buctril	4	1.0	0.26	0.26	41
Clopyralid	Stinger	8	1.0	0.12	0.12	38
Cyanazine	Bladex	9	1.0	1.26	1.26	409
Dicamba	Banvel	52	1.0	0.28	0.28	546
Dimethenamid	Frontier	12	1.0	1.62	1.62	712
EPTC	Eradicane	5	1.0	3.41	3.41	708
Flumetsulam	Broadstrike	8	1.0	0.04	0.04	14
Glyphosate	Roundup	6	1.2	0.36	0.43	91
Metolachlor	Dual	16	1.0	1.96	1.96	1,198
Nicosulfuron	Accent	18	1.0	0.03	0.03	18
Primisulfuron	Beacon	7	1.0	0.02	0.02	5
INSECTICIDE:						
Tefluthrin	Force	2	1.0	0.08	0.08	7

SOUTH DAKOTA: Nitrogen was applied to 35 percent of South Dakota's 3.5 million soybean acres. South Dakota growers averaged 1.2 nitrogen applications at the rate of 29 pounds per acre, while phosphate was applied once to 34 percent of the acreage and potash to 18 percent. Herbicide was applied to 90 percent of the acreage. Imazethapyr (Pursuit) was the most widely used herbicide, treating 65 percent of the acres at a rate of 0.04 pound per acre.

REGIONAL: Soybean producers in the nineteen states surveyed applied nitrogen to 20 percent of the planted area. The average number of nitrogen applications per acre was 1.1, with an average application rate of 23 pounds per acre. Phosphate was applied on 28 percent of the planted acreage in the surveyed states, while potash was applied to 33 percent of the acreage. An average of 97 percent of the soybean acreage was treated with herbicides in the surveyed states. The most widely used herbicides were Imazethapyr (Pursuit), Glyphosate (Roundup), and Pendimethalin (Prowl).

SOYBEANS, SOUTH DAKOTA
Acreage, Percent Receiving Fertilizer and Pesticides, Number of Applications, Rate per Application

Year 1/	Area Planted	Nitrogen			Phosphate			Potash			Herbicide	Insecticide
		Area Applied	Applications	Rate Per Application	Area Applied	Applications	Rate Per Application	Area Applied	Applications	Rate Per Application	Area Applied	Area Applied
	1,000 Acres	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Percent
1993	1,800	15	1.0	25	18	1.0	37	4	2/	2/	92	2/
1997	3,500	35	1.2	29	34	1.0	36	18	1.0	23	90	2/

1/ Data for South Dakota was not collected for 1994, 1995, or 1996. 2/ Insufficient reports to publish data.

SOYBEANS, SELECTED STATES
Acreage, Percent Receiving Fertilizer and Pesticides, Number of Applications, Rate Per Application, 1997

State	Area Planted	Nitrogen			Phosphate			Potash			Herbicide	Insecticide
		Area Applied	Applications	Rate Per Application	Area Applied	Applications	Rate Per Application	Area Applied	Applications	Rate Per Application	Area Applied	Area Applied 3/
	1,000 Acres	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Number	Lbs/Acre	Percent	Percent
IA	10,500	16	1.0	18	23	1.0	53	25	1.0	76	99	--
MN	6,800	16	1.0	14	20	1.0	41	22	1.0	93	96	1/
NE	3,500	31	1.1	16	31	1.0	40	16	1.0	20	99	1/
SD	3,500	35	1.2	29	34	1.0	36	18	1.0	23	90	1/
Total 2/	66,215	20	1.1	23	28	1.0	49	33	1.0	85	97	2

1/ Insufficient reports to publish data. 2/ Refers to 19 major soybean states, which account for 93 percent of U.S. acreage. 3/ Total applied excludes Bt's (bacillus thuringiensis). Quantities are not available because amounts of active ingredient are not comparable between products.

SOYBEANS, SOUTH DAKOTA: Frequency and Extent of Herbicide Usage By Active Ingredient, 1997

Active Ingredient	Trade Name	Area Applied	Applications	Rate Per Application	Rate Per Crop Year	Total Applied
		Percent	Number	- - - Pounds Per Acre - - -		1,000 Pounds
2,4-D	Several	6	1.0	0.34	0.34	65
Acifluorfen	Blazer	15	1.0	0.18	0.18	94
Bentazon	Basagran	14	1.0	0.65	0.65	312
Chlorimuron-ethyl	Classic	5	1.0	0.005	0.005	1
Clethodim	Select	11	1.0	0.05	0.05	20
Fenoxaprop	Whip	5	1.0	0.08	0.08	15
Fluazifop-P-butyl	Fusilade	6	1.0	0.03	0.03	6
Glyphosate	Roundup	23	1.0	0.52	0.54	438
Imazethapyr	Pursuit	65	1.0	0.04	0.04	90
Lactofen	Cobra	4	1.0	0.07	0.07	11
Pendimethalin	Prowl	26	1.1	0.71	0.79	719
Quizalofop-ethyl	Assure	5	1.3	0.04	0.05	8
Sethoxydim	Poast	4	1.0	0.20	0.20	30
Thifensulfuron	Pinnacle	13	1.0	0.002	0.002	1
Trifluralin	Treflan	31	1.0	1.00	1.01	1,090